



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,513	01/03/2001	Michael Mesh	S0489/7010 GSE	3166
23338	7590	11/30/2006	EXAMINER	
DENNISON, SCHULTZ & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314			WONG, BLANCHE	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/753,513

Applicant(s)

MESH ET AL.

Examiner

Blanche Wong

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The allowability of claims 4 and 8 has been withdrawn. See also Response to Argument in co-pending application 09/753,399.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 4-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 4, lines 18-19, and claim 18, lines 18-19, it is unclear what is meant by "an appropriate service network". The word "appropriate" is indefinite.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 4 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan et al. (U.S. Pat No. 6,172,988) in view of Jasen et al. (Pub. No. US2002/0019879 A1) and Ku et al. (Pub No. US2002/0085565).

Art Unit: 2616

With regard to claim 4, Tiernan discloses **(in Fig. 1)**

at least one service collection unit **(encoder 12, col. 5, line 58)** including

a collection module **(PES Packetizer 14, col. 5, line 67-col. 6, line 1)** for collecting a plurality of services data **(elementary streams 24, col. 5, line 62; video, audio or other coded bitstream as an “elementary stream, col. 1, line 35-36)** to be transmitted;

a processing module **(PES Packetizer)** for processing the services data in their original protocols into packets; and

a packet transmission module **(MUX 16, col. 6, line 1)** for converting the packets into optical signals on an optical fiber **(fiber optic link, col. 5, line 61)** for transmission into a metro network; and

an aggregator **(decoder 18, col. 5, line 59)**, coupled for upstream and downstream optical communication to a plurality of said service collection units, and including:

a sorting module **(DE/MUX 20, col. 6, line 6)** for sorting the services data from a plurality of packets received from said metro network, according to service type; and

a service aggregation module **(PES De-Packetizer 22, col. 6, line 8)** for combining like services data for transmission over an appropriate service network.

However, Tiernan fails to explicitly show a service collection unit comprises: at least one service interface; a packetization module for receiving services data from said

Art Unit: 2616

interface and inserting the services data into packets; a tagging module for tagging said packets; and a packet switch, coupled between said tagging module and a trunk, for switching said packets to at least one service collection unit's optical transceiver.

Jasen discloses a packetization module for receiving services data from said interface **(it would have been obvious that there is receiving before tagging)** and inserting the services data into packets and a tagging module for tagging said packets **(... tagging network traffic messages or packets ... MPLS, para. 0029)]**. Ku discloses a packet switch **(label switching (e.g. MPLS protocol), para. [0060])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include MPLS packetization and tagging modules as taught in Jasen, along with a MPLS packet switch as taught in Ku, in Tiernan's system. The suggestion/motivation for doing so would have been to provide for QoS (Jasen, para. [0029]) and label switching using MPLS protocol (Ku, para. [0060]). Therefore, it would have been obvious to combine Jasen and Ku with Tiernan for the benefit of a packetization module, a tagging module, a packet switch, to obtain the invention as specified in claim 4.

With regard to claim 6, Tiernan discloses the system according to claim 3. However, Tiernan fails to explicitly show a tagging module that is a MPLS tagging module for adding a tag based on MPLS to each of the packets.

Jasen discloses adding a tag based on MPLS to each of the packets **(... tagging network traffic messages or packets ... MPLS, para. 0029)]**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include adding a tag based on MPLS to each of the packets in Tiernan's system. The suggestion/motivation for doing so would have been to provide for QoS. Jasen, para. [0029]. Therefore, it would have been obvious to combine Jasen with Tiernan for the benefit of adding a tag based on MPLS to each of the packets in order to provide for QoS, to obtain the invention as specified in claim 6.

6. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan as applied to claims 1-3 above, and further in view of Farhan (U.S. Pat No. 6,356,369).

With regard to claim 5, Tiernan discloses the system according to claim 3. However, Tiernan fails to explicitly show a service collection unit's optical transceiver that includes at least one wavelength specific laser, and further includes a wavelength division multiplexer/demultiplexer (WDM) for multiplexing/demultiplexing the number of optical transceivers with different optical signals having different wavelengths onto/from a single optical fiber.

In an analogous art, Farhan discloses an optical transceiver (**digital optical transmitter 305 in Fig. 3, col. 4, line 30**) that includes at least one wavelength specific laser (**optical transceiver 320 comprising a laser diode, col. 4, line 67-col. 5, line 1; see also Fig. 3**), and further includes a wavelength division multiplexer/demultiplexer (WDM) (**multiplexer/demultiplexer 325, col. 5, line 6**) for multiplexing/demultiplexing the number of optical transceivers with different optical signals having different wavelengths onto/from a single optical fiber (**a fiber optic communication channel, col. 5, line 8**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include an optical transceiver that includes at least one wavelength specific laser, and further includes a wavelength division multiplexer/demultiplexer (WDM) for multiplexing/demultiplexing the number of optical transceivers with different optical signals having different wavelengths onto/from a single optical fiber in Tiernan's system. The suggestion/motivation for doing so would have been to enable fiber optic communication. Farhan, col. 5, line 8. Therefore, it would have been obvious to combine Farhan with Tiernan for the benefit of include an optical transceiver that includes at least one wavelength specific laser, and further includes a wavelength division multiplexer/demultiplexer (WDM) for multiplexing/demultiplexing the number of optical transceivers with different optical signals having different wavelengths onto/from a single optical fiber in order to enable fiber optic communication, to obtain the invention as specified in claim 5.

7. **Claims 7-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiernan as applied to claim 1 above, and further in view of Ho (Pub No. US2002/0136223).

With regard to claim 7, Tiernan discloses the system according to claim 3. However, Tiernan fails to explicitly show a module in a trunk for encapsulating tagged packets into PPP packets.

In an analogous art, Ho discloses encapsulating tagged packets into PPP packets (...encapsulation protocol such as PPP ... MPLS/PPP ..., para. 0007]).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include encapsulating tagged packets into PPP packets in Tiernan's system. The suggestion/motivation for doing so would have been to eliminate the overhead associated with padding and potentially reducing the ATM header overhead. Ho, para. [0007]. Therefore, it would have been obvious to combine Ho with Tiernan for the benefit of encapsulating tagged packets into PPP packets in order to eliminate the overhead associated with padding and potentially reducing the ATM header overhead, to obtain the invention as specified in claim 7.

With regard to claim 8, see analyses for claims 4 and 7.

With regard to claim 9, Tiernan discloses a system according to claim 7. However, Tiernan fails to explicitly show PPP packets that are arranged in an HDLC-like frame.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include PPP packets that are arranged in an HDLC-like frame in Tiernan's system. The suggestion/motivation for doing so would have been to provide for PPP. **(It is Examiner's position that PPP is a layer two protocol that is built on top of a restrictive subset of the standard HDLC protocol.)** Therefore, it would have been obvious to combine Ho with Tiernan for the benefit of PPP packets that are arranged in an HDLC-like frame in order to provide for PPP, to obtain the invention as specified in claim 9.



Art Unit: 2616

***Allowable Subject Matter***

8. Claim 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. Claims 10-17, 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*BW*

BW

November 14, 2006



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600